

THE INVENTION CLAIMED IS:

1. A high strength steel for induction hardening, comprising, by mass:

carbon (C): 0.5 to 0.7%,
silicon (Si): 0.5 to 0.9%,
manganese (Mn): 0.5 to 1.0%,
chromium (Cr): not more than 0.4%, and
sulfur (S): not more than 0.035%,

with the balance consisting of iron (Fe) and unavoidable impurities, said steel being forged into a component at least a part of which is then inductively hardened before use.

2. The high strength steel for induction hardening according to claim 1, wherein the equivalent of carbon C_{eq} represented by formula (1) satisfies a requirement represented by formula (2):

$$C_{eq} = C\% + 1/7 Si\% + 1/5 Mn\% + 1/9 Cr\% - 5/7 S\% \quad (1)$$

$$0.75 \leq C_{eq} \leq 0.90 \quad (2)$$

3. A component produced by inductively hardening at least a part of a product produced by casting the steel according to claim 1.

4. The component according to claim 3, wherein the component is a hub unit or a joint.

5. The high strength steel of claim 1 having a Si content of 0.59 to 0.9%.

6. A high strength steel for induction hardening, having improved machinability, said steel comprising, by mass:

carbon (C): 0.5 to 0.7%,
silicon (Si): 0.5 to 1.0%,
manganese (Mn): 0.5 to 1.0%,

chromium (Cr): not more than 0.4%,
sulfur (S): not more than 0.035%, and
vanadium (V): 0.01 to 0.15%

with the balance consisting of iron (Fe) and unavoidable impurities,
said steel being cast and forged to produce a component at least a part of which is
then inductively hardened before use.

7. The high strength steel for induction hardening according to
claim 6, having a Si content of 0.59 to 0.9% and wherein the equivalent of carbon
 C_{eq} represented by formula (1) satisfies a requirement represented by formula (2):

$$C_{eq} = C\% + 1/7 \text{ Si}\% + 1/5 \text{ Mn}\% + 1/9 \text{ Cr}\% - 5/7 \text{ S}\% + \text{V}\% \quad (1)$$

$$0.75 \leq C_{eq} \leq 0.90 \quad (2)$$

8. A component produced by inductively hardening at least a part
of a product produced by casting the steel according to claim 6.

9. The component according to claim 8, wherein the component is
a hub unit or a joint.

10. An induction hardened hub made from a high strength steel
comprising, by mass:

carbon (C): 0.5 to 0.7%,
silicon (Si): 0.5 to 0.9%,
manganese (Mn): 0.5 to 1.0%,
chromium (Cr): not more than 0.4%, and
sulfur (S): not more than 0.035%,

with the balance consisting of iron (Fe) and unavoidable impurities,
said steel being forged into a component at least a part of which is then inductively
hardened before use.

11. The induction hardened hub of claim 10 wherein the high
strength steel contains 0.59 to 0.9% Si.